

Results: DNA methylation levels of the CpG sites adjacent to transcription start site tended to be low (CpG1: 51.32%, CpG2: 53.24%, CpG3: 40.71%, CpG4: 24.41%, CpG5: 13.80%, CpG6: 10.00%, CpG7: 15.53%, CpG8: 6.04%, CpG9: 15.12%). For each CpG site and the average value of 9 CpG sites, methylation levels were lower (except for CpG2) in other three groups, compared with nondepression-non-hypertension group, but not statistically significant. Multiple regression analysis indicated no significant differences among different groups after controlling for age and BMI. Spearman's correlation coefficients and PCA found that CpG5-9 and CpG4 are highly representable by the first principle component, while CpG2 had a big loading on the second principle component and CpG1, CpG3 land in between. HCA showed that all observations may be clustered into three subgroups, in which the samples from all hypertension and depression combinations were mixed. Therefore, using the methylated levels on these 9 CpG sites, we cannot discriminate these four groups apart.

Conclusions: The present study firstly detects the role of epigenetics on the depression-hypertension association and finds that there are no significant differences in DNA methylation levels in NET gene among groups. Further studies should take into consideration the role of methylation in other CpG sites and other potential epigenetic mechanisms in the regulation of NET gene on the association between depression and hypertension. Furthermore, studies with prospective design or studies conducted in cell lines or animal models with interventions are needed for mechanism research.

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Mental health surveys among the hospitalized patients with atherosclerotic cardiovascular disease at Department of Cardiology

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Objectives: While mental health problem, such as depressions often co-occur with heart disease, less is known about the prevalence and really clinical diagnosis or treatment status of anxiety or depression in patients with atherosclerotic cardiovascular disease(ASCVD). The aim of the study was to investigate the prevalence and the real world status of diagnosis and treatment of anxiety /depression disorders in those with ASCVD who admitted at department of cardiology. This is useful to lay the foundation for a better management of patients with the comorbidity of mental disorders and heart disease.

Methods: 292 men and 158 women from inpatients of department of cardiology between October 2013 and February 2014 were assessed for ASCVD. Anxiety and depressive symptoms were measured using face-to-face interviews with the Hospital Anxiety and Depression Scale (HADS) during the period of hospitalization. The initial medical history about the diagnosis and treatments of anxiety or /and depression were looked up.

Results: (1) Out of 450 patients, 204 (45.3%) patients were diagnosed with anxiety or/and depression. The most prevalent psychological disorder was only anxiety (112 cases, 24.9%), followed by only depression (50 cases, 11.1%), and comorbidity of anxiety and depression (42 cases, 9.3%). The mean HAD-A score for 154 patients with anxiety was 17.35 ± 6.21 , and the mean HAD-D score for 92 patients with depression was 24.45 ± 7.16 . Multivariable logistic regression analysis indicated that factors, such as sex (female)[OR=1.63, 95% CI 1.21-2.21, P=0.002], age (40-60 year old) [OR=1.54, 95% CI 1.15-2.07, P=0.004], poor sleep quality [OR=1.62, 95% CI 1.34-1.96, P=0.0001] were significantly associated with incidence of anxiety or /and depression respectively. (2) Out of 204 ASCVD patients with anxiety or /and depression, only 25 cases (12.6%) were diagnosed with anxiety or /and depression, and only 23 (11.3%) cases were treated with anti-anxiety or depression drugs at initial medical history. The most frequent drug was vitamin (10 cases, 43.4%), then Traditional Chinese Medicine(6 cases, 26.0%), benzodiazepines (4 cases, 17.3%), flupentixol and melitracen(2 cases, 8.6%), and mirtazapine(1 case, 4.3%). (3) Twenty-two physicians who majored cardiology conducted questionnaire investigation about diagnostic standard and treatment of anxiety or depression disorders. The correct answer rates for 10 (45.4%) physicians were lower than 60%, 8 physicians between 60-80%, and 4 physicians higher than 80%. Only 2 physicians presented 100% of correct answers.

Conclusions: Anxiety / depression disorders is common in those with ASCVD. ASCVD Patients with female, middle-aged (40-60years), or those with sleep disorder were at increased risk for elevated anxiety and depressive symptoms. In clinical practice, the anxiety /depression disorders in patients with ASCVD were under-detected and under-treated. It is pivotal to train physicians of cardiology and elevate their abilities of screening and management of Mental - physical co-morbidity.

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Gender Difference In Anxiety For The First Blood Transfusion: Result Of A Single Center

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Objectives: Blood transfusion has several risks including allergic reaction, acute hemolysis, infectious disease and so on. Both physicians and patients are always cautious to decide on blood transfusion. The purpose of this study was to explore whether there are gender difference in anxiety for the first blood transfusion in patients with different diseases.

Methods: 315 patients (153 men and 162 women)were enrolled in this prospective, comparative study and median age was 38 years(range 17-72). The disease consisted of 85 chronic hepatitis B, 73 leukemia, 69 gastric ulcer, 48 chronic renal failure and 40 gynecological oncology. Various blood products including plasma, red blood cells suspension and platelet were infused. Anxiety was evaluated by patients' clinical symptoms during the first blood transfusion.

Results: For the patients with same disease, women had higher anxiety levels than men during the first blood transfusion [(0.83 ± 0.60) vs (0.55 ± 0.70) , $P < 0.05$].

Conclusions: Women were more anxious than men during the first blood transfusion and this relationship is independent of age, race, education level and kinds of blood product.

Cardiac Cath Lab Technology

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The effect of right ventricular pacing on aortic regional pressure: An animal study

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Objectives: To determine the variation of aortic regional pressure at different pacing rates in right ventricle.

Methods: A group of 10 healthy adult goats were selected for the study. Under general anesthesia, pacing rate was increased from 150 to 350 beats/min with increment of 25 beats/min. Systolic, diastolic and mean aortic pressure were determined at different pacing rate with an external pacemaker. Then the pressure gradients were figured out.

Results: The systolic supra-ventricular aortic pressure and systolic transvalvular aortic pressure gradient curve was decreased with the pacing rate increase. The diastolic transvalvular aortic pressure gradient curve was elevated with the pacing rate increase. However, the diastolic supra-ventricular aortic pressure curve was similar to an irregular parabolic curve.

Conclusions: Pacing in right ventricular apical results in decline in aortic pressure. And for goats, the appropriate pacing frequency that reducing the transvalvular pressure gradient effectively with less danger was 250-300 beats/min.